

**Supplemental  
Notice of Allowability**

Application No.

10/750,949

Examiner

Mujtaba K. Chaudry

Applicant(s)

DERVISOGLU ET AL.

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/1/2006.
2. ☒ The allowed claim(s) is/are 1-10,30 and 31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 5/1/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**GUY LAMARRE  
PRIMARY EXAMINER**

5/8/06

**Notice of Allowability**

Application No.

10/750,949

Examiner

Mujtaba K. Chaudry

Applicant(s)

DERVISOGLU ET AL.

Art Unit

2133

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address–

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 08/23/2004.
2. ☒ The allowed claim(s) is/are 1-10,30 and 31.
3. ☒ The drawings filed on 1/5/2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 4/1/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
**GUY LAMARRE**  
**PRIMARY EXAMINER**

**DETAILED ACTION*****Election/Restrictions***

Applicants' election to claims 1-10, 30 and 31 is acknowledged. Claims 1-10, 30 and 31 are considered on the merits. Claims 11-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on August 23, 2004.

Applicant is reminded that upon the cancellation of non-elected claims 11-29, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

**REASONS FOR ALLOWANCE**

Claims 1-10, 30 and 31 are allowed. The following is an Examiner's statement of reasons for allowance:

Independent claim 1 of the present application teaches a method for computing compressed serial scan-in values for a scan-chain, said method comprising: beginning with a desired scan-chain state as an initial current scan-chain state, said desired scan-chain state comprising one or more care-in values and zero or more don't care values, repeatedly computing a previous scan-chain state and serial scan-in input value that must have existed one shift cycle prior to said current scan-chain state and setting said previous scan-chain state as the current scan-chain state, until said current scan-chain state has predetermined values in predetermined

bit positions of said scan-chain; and forming said compressed serial scan-in values from said computed serial scan-in input values. The foregoing limitations are not found in the prior arts of record. The prior art of record, namely Beebe et al. (herein after: Beebe), teaches a programmable gate array includes test subsystems for testing various functional subsystems of the programmable gate array. A sequence of test methods, employing the test subsystems, test the functionality of the programmable gate array, taking into account the interdependencies of the various subsystems and accordingly enabling fault isolation therein. Beebe teaches (Figure 10) a plurality of repeater latches 150.sub.1, 150.sub.2, . . . 150.sub.24, are configured together as a serial scan chain, for example, repeater scan chain 30.sub.1. The repeater, or interconnect, scan chain enables scanning of data serially into, and out of, the respective repeater latches. Each of the sequential repeater latches has its serial output connected to the serial input of the subsequent repeater latch within the associated serial scan chain. The serial input of the first repeater latch (150.sub.1) of the scan chain (30.sub.1) provides the scan input for the associated repeater scan chain, while the serial output of the last repeater latch (50.sub.24) of the scan chain (30.sub.1) provides the scan output for the associated repeater scan chain. The serial inputs and serial outputs of the repeater scan chains 30 are identified in accordance with associated column and row scan chains. The serial inputs to seven columns of repeater scan chains are provided by interconnects SITOP(0-7). The associated serial outputs for the column repeater scan chains are provided by interconnects SOBOT(0-7). The serial inputs and outputs for the row repeater scan chains are similarly provided by interconnects SIRIGHT(0-7) and SOLEFT(0-7) respectively. Each of the repeater latches within the repeater scan chains share LSSDA, LSSDB, and LSSDC clocks for enabling synchronous and parallel LSSD scan operations of the respective repeater

Art Unit: 2133

scan chains. LSSD clocking of the respective repeater scan chains is provided via associated I/O interconnects LSSDA, LSSDB10, and LSSDC when MTEST is active, low. Operation of the repeater scan chains is enabled via the repeater scan chain control REPT. Access to these interconnects of the repeater scan chains is provided at associated multi-use I/O ports "m" when MTEST and TESTMORE control signals are both active, low. Each repeater latch is individually programmable, per its associated configuration data, for enabling a primary output thereof to be selectively coupled to its portion of the associated local bus. The configuration data for each repeater latch is stored within associated memory cells of configuration SRAM memory 14. None of the prior arts of record teach nor fairly suggest all the limitations in the independent claim 1 of the present application. In particular, the limitations of **"...repeatedly computing a previous scan-chain state and serial scan-in input value that must have existed one shift cycle prior to said current scan-chain state and setting said previous scan-chain state as the current scan-chain state, until said current scan-chain state has predetermined values in predetermined bit positions of said scan-chain; and forming said compressed serial scan-in values from said computed serial scan-in input values"** are not taught nor fairly suggested in the prior arts of record.

Independent claim 8 includes similar limitations of independent claim 1 and therefore is allowed for similar reasons.

Dependent claims 2-7, 9, 10, 30 and 31 depend from independent claims 1 and 8 and inherently include limitations therein and therefore are allowed as well.

Art Unit: 2133

Any inquiries concerning this communication should be directed to the examiner, Mujtaba Chaudry who may be reached at 571-272-3817. The examiner may normally be reached Mon - Thur 6:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, please contact the examiner's supervisor, Albert DeCady at 571-272-3819.



Mujtaba Chaudry  
Art Unit 2133  
July 19, 2005



**GUY LAMARRE**  
**PRIMARY EXAMINER**